C35(i), M35(i), S35
Level 2.5

Repair Documentation

V 0.9

Table of Contents:

1 INTRODUCTION....3
2 ANTENNA CONNECTOR....4
3 RINGER....8
4 BOTTOM CONNECTOR (LUMBERG)....11
5 DISPLAY CONNECTOR....15
6 KEYBOARD LEDS....19
7 DISPLAY LEDS....22
8 INFRARED DIODES....26

1 Introduction

The C/M/S35 product family consists of 5 different dualband handsets (GSM-900 and GSM-1800), which can easily be distinguished from the second block of the partnumber printed on the IMEI label. There also exist Asian variants of C/M/S35 named 3508 / 3518 / 3568 respectively. All information below also applies to the Asian variants unless otherwise noted.

Partnumber on IMEI label:

1) C35 / 3508: S30880-**S4000**-Xxxx

2) C35i / 3508i: S30880-**S4050**-Xxxx
Same as C35 / 3508 but with additional WAP and fax/data capabilities

3) M35 / 3518: S30880-**S4200**-Xxxx

4) M35i / 3518i: S30880-**S4250**-Xxxx
Same as M35 / 3518 but with additional WAP and fax/data capabilities

5) S35i / 3568i: S30880-**S4100**-Xxxx

This manual is intended to help you carry out repairs on level 2.5, meaning limited component repairs. Failure highlights are documented and should be repaired in the local workshops.

It must be noted that all repairs have to be carried out in an environment set up according to the ESD (Electrostatic Discharge Sensitive Devices) regulations defined in international standards.

If you have any questions regarding the repair procedures or spare parts do not hesitate to contact our technical support team in Kamp-Lintfort, Germany:

Tel.: +49 2842 95 4666
Fax: +49 2842 95 4302
e-mail: dominik.schnoor@klf.siemens.de

2 Antenna Connector

2.1 Affected Units

2.1.1 Type: **C/M/S35**

2.1.2 Affected IMEIs / Date Codes: *All / All*

2.1.3 Affected SW-Versions: *All*

2.1.4 Fault Code for LSO reporting: 3ANC

2.2 Fault Description

2.2.1 Fault Symptoms for customers:

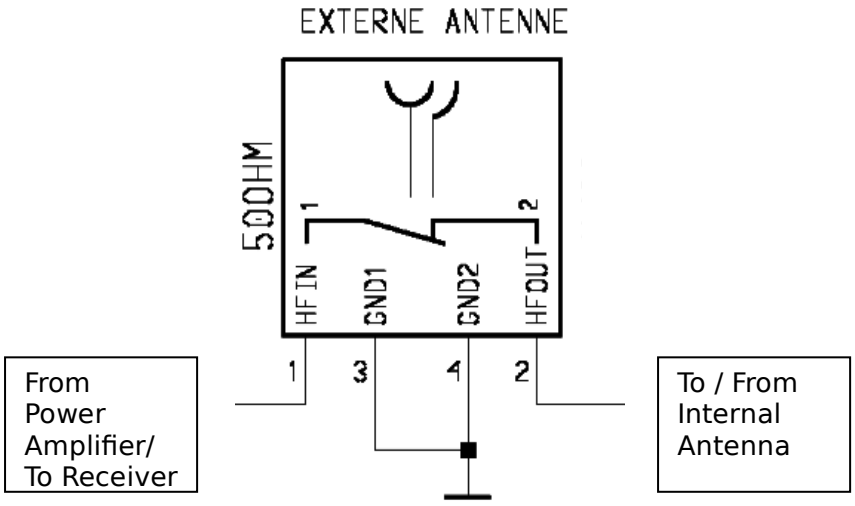
Network Search when using the external antenna (carkit)
No location update possible on external antenna (carkit)

2.2.2 Fault Symptom on GSM-Tester:

Output power problems on the external antenna
No location update possible

2.2.3 Component Information

The Antenna Connector is a mechanical switch operated by the RF plug of a carkit or, for testing purposes, of an RF clip.
Normally the RF signal goes to and comes from the internal antenna. Whenever an RF plug is plugged into the antenna connector the connection to the internal antenna is opened and the connection to the external antenna socket is made. See drawing below.



2.3 Priority:

- ☐ ..... Mandatory
- ¤ ..... Repair
- ☐ ..... Optional
- ☐ ..... Not Yet Defined

2.4 Repair Documentation

2.4.1 Description of procedure:

2.4.1.1 Diagnosis

Check the output power of the handset with the LSO testprogram. Especially watch the external antenna power!

2.4.1.2 Repair by component change

Use hot air blower to remove defective connector
Avoid excessive heat!
Watch surrounding components!

Resolder new connector afterwards.

2.4.1.3 Repair by SW-Booting

Not possible!

2.4.1.4 Test

Retest handset after repair as described above.

2.4.2 List of needed material

2.4.2.1 Components

X35 antenna connector
Attention: This is not the same connector as C25/S25 !!!

Part-Number: L36334-Z93-C272

2.4.2.2 Jigs and Tools

Hot Air Blower
Soldering Iron

2.4.2.3 Special Tools

None

2.4.2.4 Working materials

Desolder Wick / Braid
Solder

2.4.3 Drawings

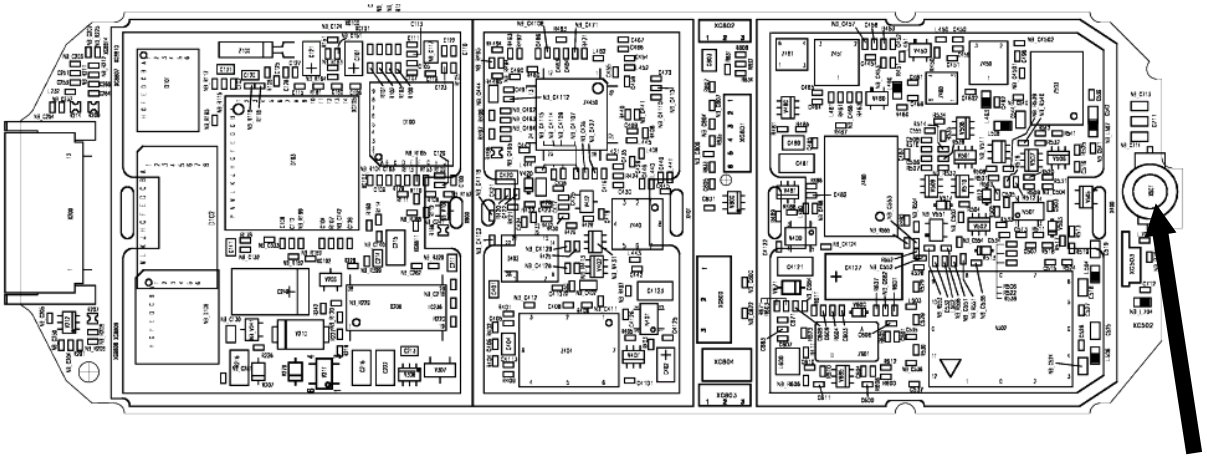


Figure 1: X35 Board Antenna Connector Side (Top View)

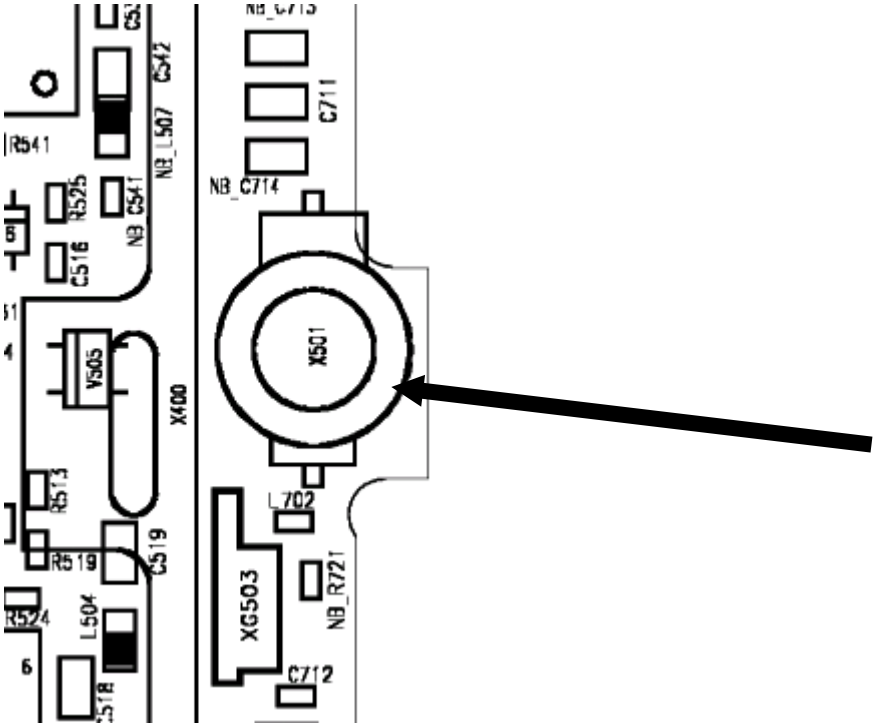


Figure 2: X35 Antenna Connector Placement (X501) (Top View)

3 Ringer

3.1 Affected Units

3.1.1 Type: C/M/S35

3.1.2 Affected IMEIs / Date Codes: *All / All*

3.1.3 Affected SW-Versions: *All*

3.1.4 Fault Code for LSO reporting: 3RIN

3.2 Fault Description

3.2.1 Fault Symptoms for customers:

Problems with the handset ringer. No ringer tone audible.

3.2.2 Fault Symptom on GSM-Tester:

Handset fails ringer test.

3.3 Priority:

☐ ..... Mandatory
¤ ..... Repair
☐ ..... Optional
☐ ..... Not Yet Defined

3.4 Repair Documentation

3.4.1 Description of procedure:

3.4.1.1 Diagnosis

Visually check the ringer. Watch for physical damage or dry joints.

3.4.1.2 Repair by component change

Resolder dry soldering joints.
If the ringer is physically damaged use hot air blower or wick to remove defective connector.
Avoid excessive heat!
Watch surrounding components!

Resolder new ringer afterwards.

3.4.1.3 Repair by SW-Booting

Not possible!

3.4.1.4 Test

Retest handset after repair.

3.4.2 List of needed material

3.4.2.1 Components

Ringer P35:
Part-Number: L36178-Z2-C26

3.4.2.2 Jigs and Tools

Hot Air Blower
Soldering Iron

3.4.2.3 Special Tools

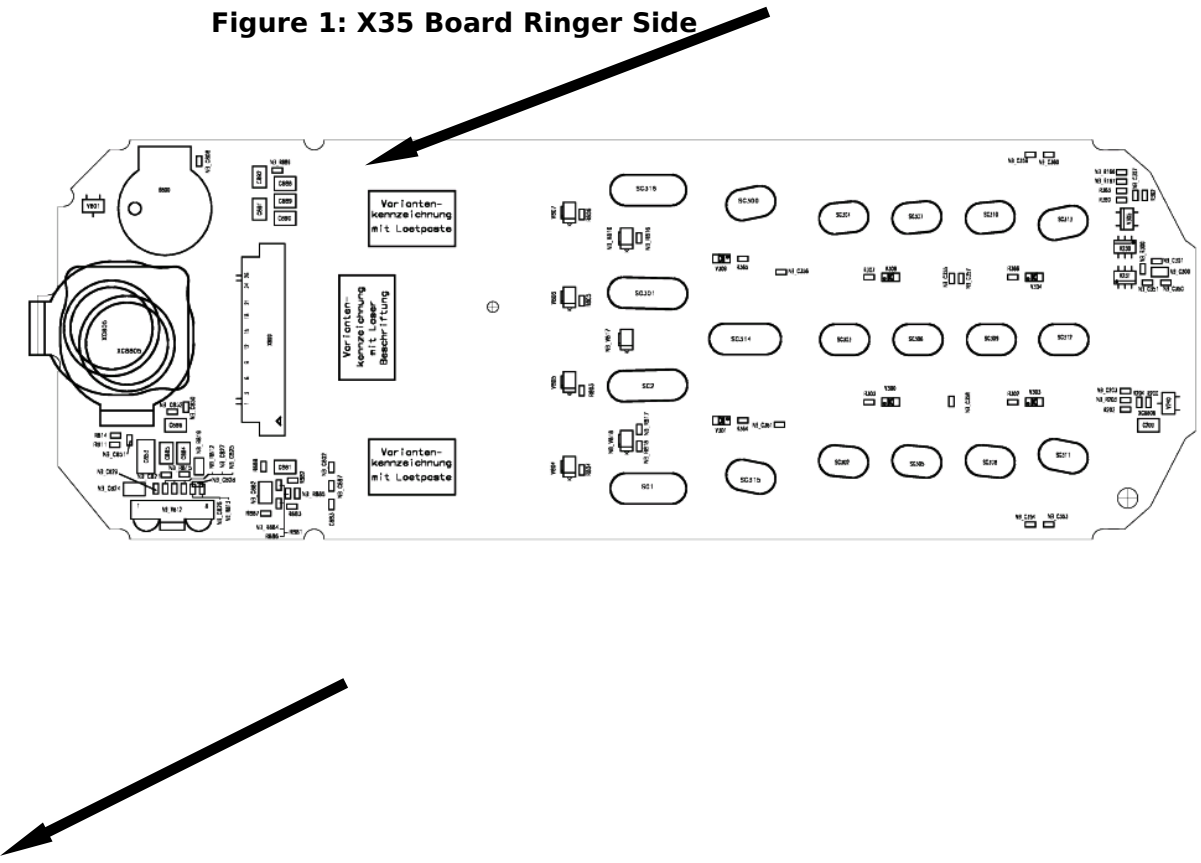
None

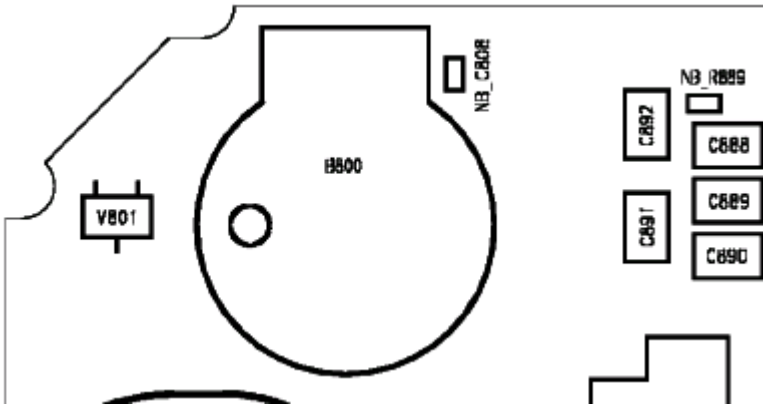
3.4.2.4 Working materials

Desolder Wick / Braid
Solder
Flux

3.4.3 Drawings

Figure 1: X35 Board Ringer Side




NB_C808
NB_R889
C892
C888
C889
C891
C890
V801

4 Bottom Connector (Lumberg)

4.1 Affected Units

4.1.1 Type: **C/M/S35**

4.1.2 Affected IMEIs / Date Codes: *All / All*

4.1.3 Affected SW-Versions: *All*

4.1.4 Fault Code for LSO reporting: 3LUC

4.2 Fault Description

4.2.1 Fault Symptoms for customers:

Charging problems.
Problems with external loudspeaker or microphone when using a car kit.
Problems with accessories connected at the bottom connector.
Problems with SW booting.

4.2.2 Fault Symptom on GSM-Tester:

This problem cannot be detected with a GSM-Tester.

4.3 Priority:

☐ ..... Mandatory
¤ ..... Repair
☐ ..... Optional
☐ ..... Not Yet Defined

4.4 Repair Documentation

4.4.1 Description of procedure:

4.4.1.1 Diagnosis

Visually check the bottom connector. Watch for dry joints!

4.4.1.2 Repair by component change

Use hot air blower remove defective bottom connector.
Avoid excessive heat!
Watch surrounding components!

Resolder new bottom connector afterwards.

4.4.1.3 Repair by SW-Booting

Not possible!

4.4.1.4 Test

Retest handset after repair.

4.4.2 List of needed material

4.4.2.1 Components

Bottom Connector X35
Part-Number: L36334-Z93-C262

4.4.2.2 Jigs and Tools

Hot Air Blower
Soldering Iron

4.4.2.3 Special Tools

None

4.4.2.4 Working materials

Desolder Wick / Braid
Solder

4.4.3 Drawings

Figure 1: X35 Board Bottom Connector Side

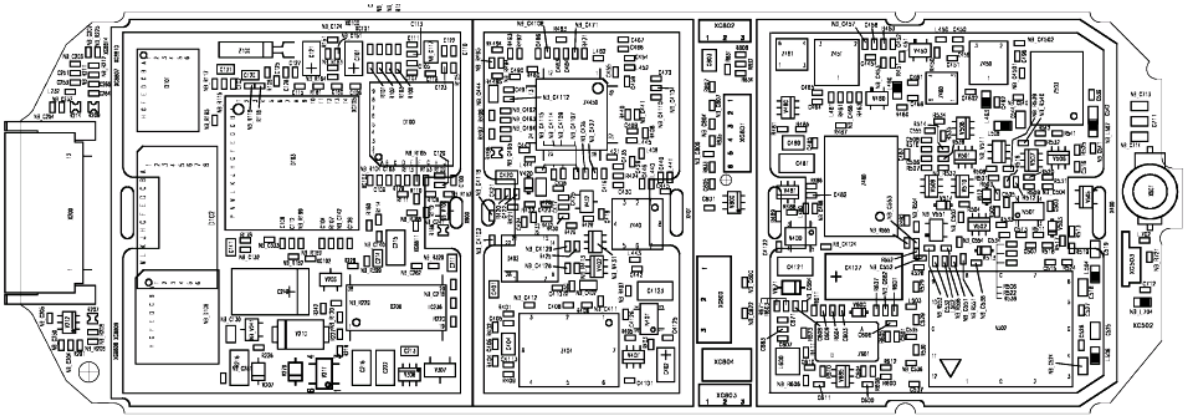


Figure 2: X35 Bottom Connector Placement (Top View)

Pin 12

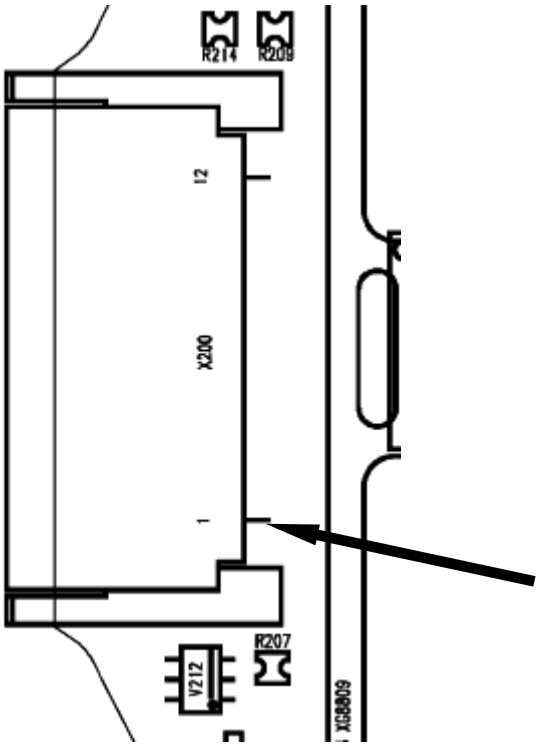


Table 1: X35 Bottom Connector Pin Description

	Name	IN/OUT	Notes
1	GND		
2	SB	I/O	Charger coding and charger control.
3	POWER	I	Charging Current
4	FBatt+	O	Power supply for the accessories.
5	TX	O	Serial interface
6	RX	I	Serial interface
7	ZUB_CLK	I/O	Clock line for accessory bus Use as DTC In data operation
8	ZUB_DATA	I/O	Data line for

			accessory bus. Use as CTS in data operation
9	GND_MIC		For external microphone
10	HF_MIC	I	External microphone
11	AUDO	O	Trigger for external loudspeaker
12	GNDA		For external loudspeaker

5 Display Connector

5.1 Affected Units

5.1.1 Type: **C/M/S 35**

5.1.2 Affected IMEIs / Date Codes: *All / All*

5.1.3 Affected SW-Versions: *All*

5.1.4 Fault Code for LSO reporting: 3DIC

5.2 Fault Description

5.2.1 Fault Symptoms for customers:

Display problems, like missing lines or columns on the LCD or display contrast problems.

5.2.2 Fault Symptom on GSM-Tester:

Display test fails.

5.3 Priority:

☐ ..... Mandatory
¤ ..... Repair
☐ ..... Optional
☐ ..... Not Yet Defined

5.4 Repair Documentation

5.4.1 Description of procedure:

5.4.1.1 Diagnosis

Visually check the status of the display connector. Watch for oxidation and dry solder joints.
Mechanically check the opening / closing mechanism.

5.4.1.2 Repair by component change

Use hot air to remove defective connector
Avoid excessive heat!
Watch surrounding components!!

Resolder new connector afterwards

5.4.1.3 Repair by SW-Booting

Not possible!

5.4.1.4 Test

Retest handset after repair.

5.4.2 List of needed material

5.4.2.1 Components Display connector

Part-Number: L36195-Z26-C629

5.4.2.2 Jigs and Tools

Soldering Iron
Hot Air Blower

5.4.2.3 Special Tools

None

5.4.2.4 Working materials

Desolder Wick / Braid
Solder

5.4.3 Drawings

Figure 1: X35 board display connector side

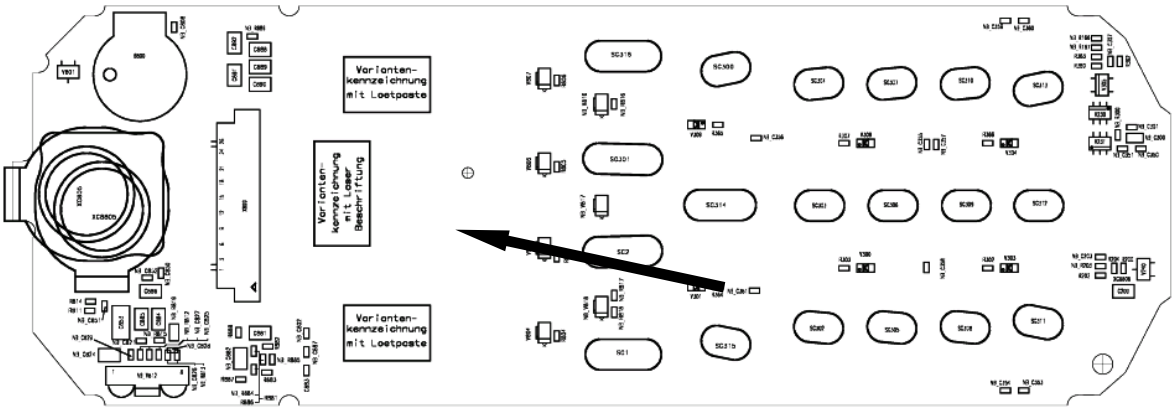
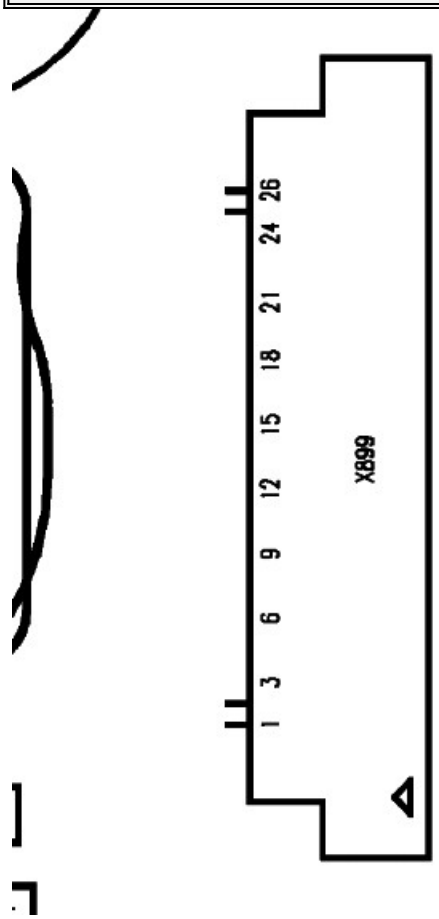


Figure 2: X35 display connector placement (Top View)


X899
1
3
6
9
12
15
18
21
24
26

6 Keyboard LEDs

6.1 Affected Units

6.1.1 Type: **C/M/S 35**

6.1.2 Affected IMEIs / Date Codes: *All / All*

6.1.3 Affected SW-Versions: *All*

6.1.4 Fault Code for LSO reporting: 3LED

6.2 Fault Description

6.2.1 Fault Symptoms for customers:

Keyboard Illumination not working.

6.2.2 Fault Symptom on GSM-Tester:

This fault cannot be detected with a GSM-Tester

6.3 Priority:

☐ ..... Mandatory
¤ ..... Repair
☐ ..... Optional
☐ ..... Not Yet Defined

6.4 Repair Documentation

6.4.1 Description of procedure:

6.4.1.1 Diagnosis

Use the diode test function of a multimeter to check the status of the diode.
The typical voltage drop on the diode is 1.7V when testing the diode function with the multimeter.

6.4.1.2 Repair by component change

Use soldering iron to remove defective diode
Avoid excessive heat!
Watch surrounding components!

Resolder new diode afterwards.

6.4.1.3 Repair by SW-Booting

Not possible!

6.4.1.4 Test

Retest handset after repair.

6.4.2 List of needed material

6.4.2.1 Components

LED keyboard X35
Part-Number: L36840-L2031-D670

6.4.2.2 Jigs and Tools

Hot Air Blower

Soldering Iron

6.4.2.3 Special Tools

None

6.4.2.4 Working materials

Desolder Wick / Braid
Solder

6.4.3 Drawings

Figure 1: X35 board keyboard LED Side

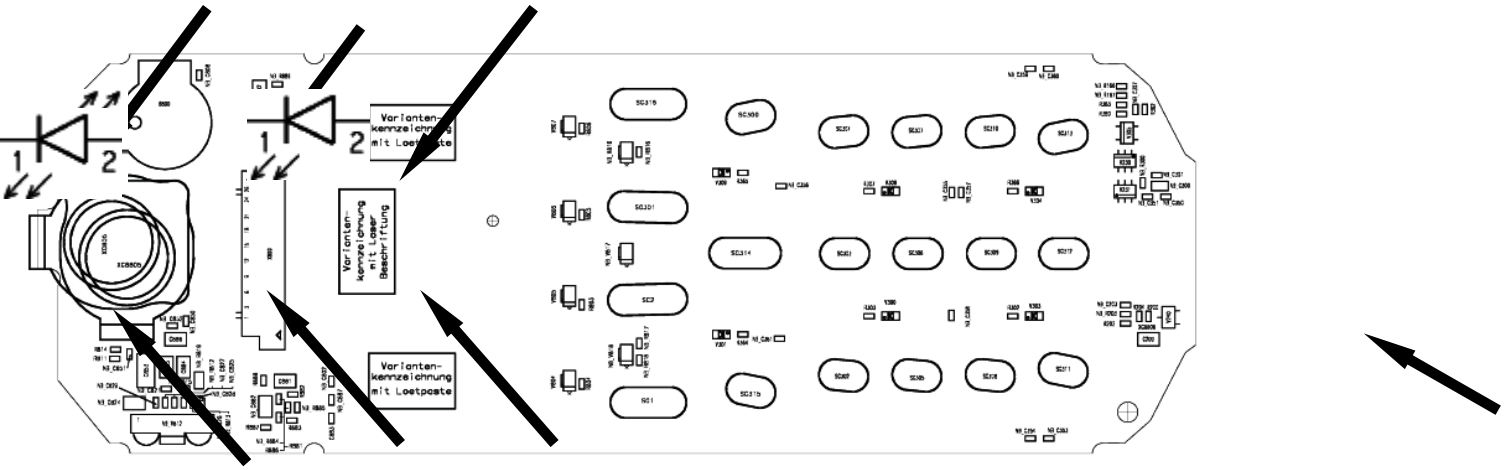
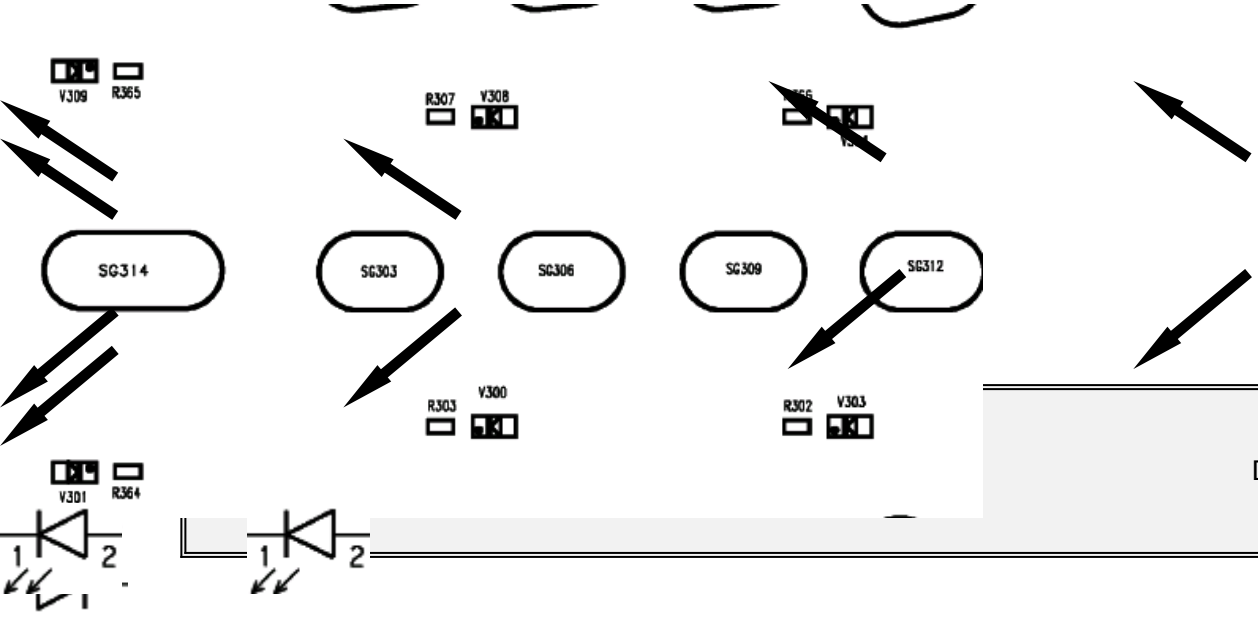


Figure 2: X35 keyboard LED placement and polarity (top view)



7 Display LEDs

7.1 Affected Units

7.1.1 Type: C/M/S 35

7.1.2 Affected IMEIs / Date Codes: *All / All*

7.1.3 Affected SW-Versions: *All*

7.1.4 Fault Code for LSO reporting: 3LED

7.2 Fault Description

7.2.1 Fault Symptoms for customers:

Display Illumination not working.

7.2.2 Fault Symptom on GSM-Tester:

This fault cannot be detected with a GSM-Tester

7.3 Priority:

☐ ..... Mandatory
¤ ..... Repair
☐ ..... Optional
☐ ..... Not Yet Defined

7.4 Repair Documentation

7.4.1 Description of procedure:

7.4.1.1 Diagnosis

Use the diode test function of a multimeter to check the status of the diode.
The typical voltage drop on the diode is 1.7V when testing the diode function with the multimeter.
Attention: There are two different types of display LEDs, one for C/M35 and one for S35! Also they use different placement location, see drawings 1 and 3.

7.4.1.2 Repair by component change

Use soldering iron to remove defective diode
Avoid excessive heat!
Watch surrounding components!

Resolder new diode afterwards.

7.4.1.3 Repair by SW-Booting

Not possible!

7.4.1.4 Test

Retest handset after repair.

7.4.2 List of needed material

7.4.2.1 Components

Display LED S35
Part-Number: L36840-**L2048-**D670

Display LED C/M35

Part-Number: L36840-**L2047**-D670

7.4.2.2 Jigs and Tools

Hot Air Blower
Soldering Iron

7.4.2.3 Special Tools

None

7.4.2.4 Working materials

Desolder Wick / Braid
Solder

7.4.3 Drawings

Figure 1: C/M35 board display LED Side

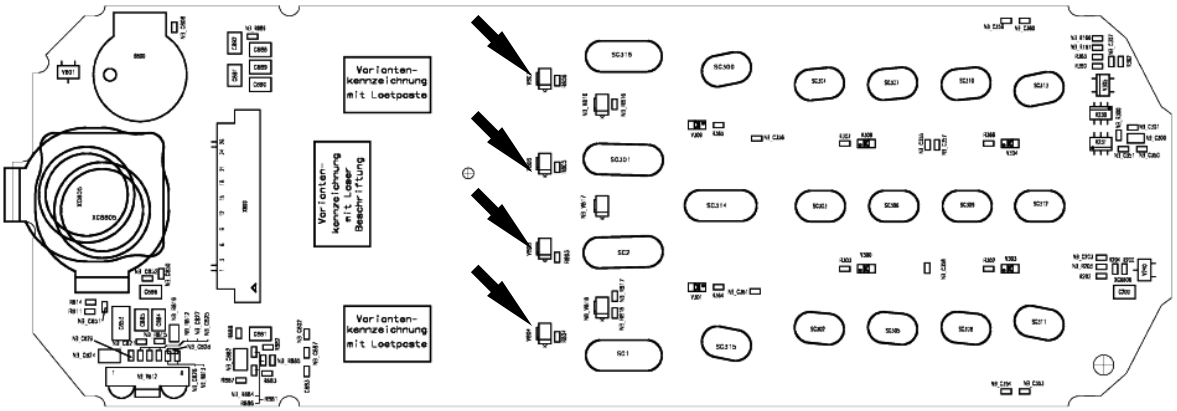


Figure 2: C/M35 board display LED placement and polarity

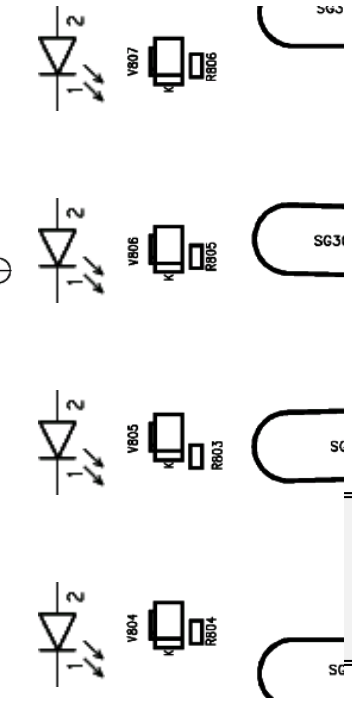


Figure 3: S35 board display LED side

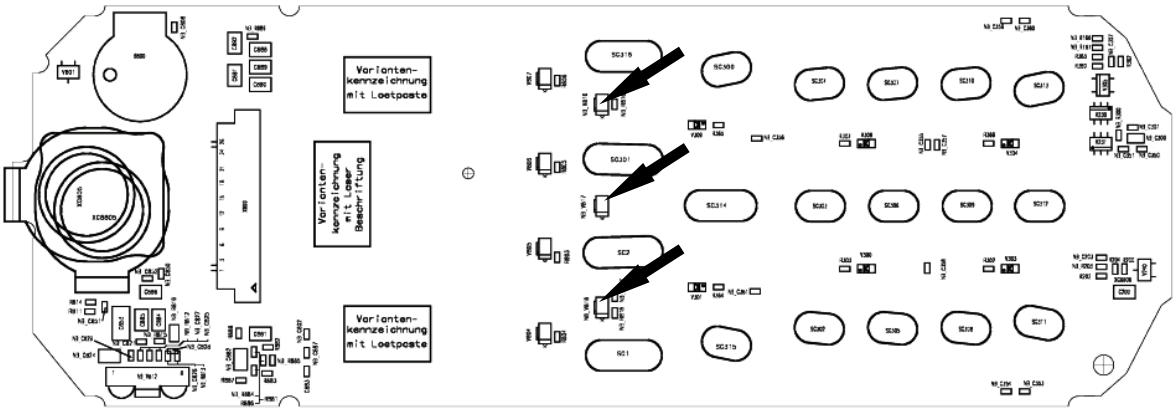
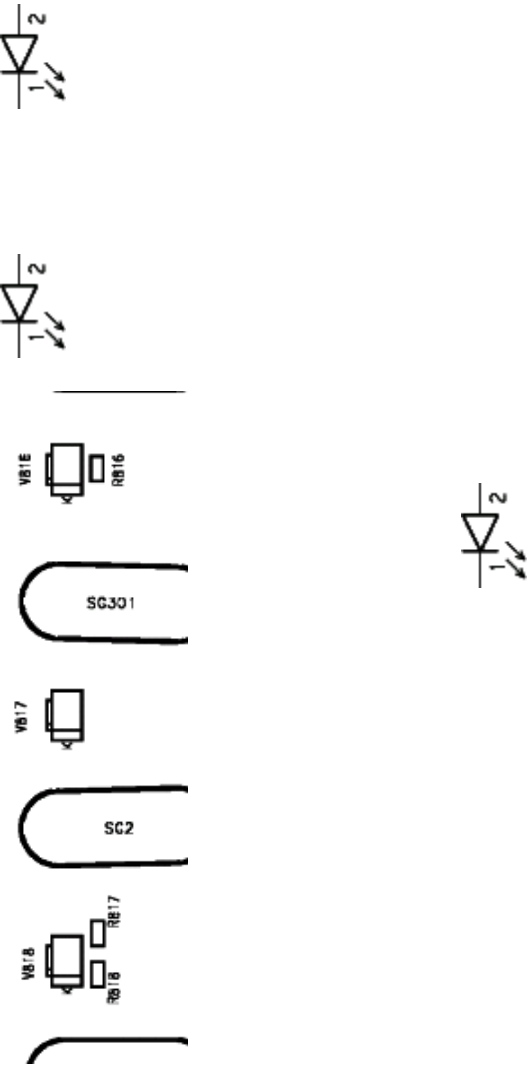


Figure 4: S35 board display LED placement and polarity



8 Infrared Diodes

8.1 Affected Units

8.1.1 Type: **S 35**

8.1.2 Affected IMEIs / Date Codes: *All / All*

8.1.3 Affected SW-Versions: *All*

8.1.4 Fault Code for LSO reporting: 3INF

8.2 Fault Description

8.2.1 Fault Symptoms for customers:

No infrared connection possible.

8.2.2 Fault Symptom on GSM-Tester:

This fault cannot be detected with a GSM-Tester.

8.3 Priority:

☐ ..... Mandatory
¤ ..... Repair
☐ ..... Optional
☐ ..... Not Yet Defined

8.4 Repair Documentation

8.4.1 Description of procedure:

8.4.1.1 Diagnosis

Visually check the status of the IrDa module. Watch for dry solder joints.
Use a reference infrared port (eg. from a notebook) to check the IrDa function. If the notebook recognizes the S35, the infrared function is ok.

8.4.1.2 Repair by component change

Use hot air to remove defective infrared module.
Avoid excessive heat!
Watch surrounding components!!

Resolder new module afterwards

8.4.1.3 Repair by SW-Booting

Not possible!

8.4.1.4 Test

Retest handset after repair.

8.4.2 List of needed material

8.4.2.1 Components Infrared module S35

Part-Number: L36810-U6030-D670

8.4.2.2 Jigs and Tools

Soldering Iron
Hot Air Blower

8.4.2.3 Special Tools

None

8.4.2.4 Working materials

Desolder Wick / Braid
Solder

8.4.3 Drawings

Figure 1: S35 board infrared module side

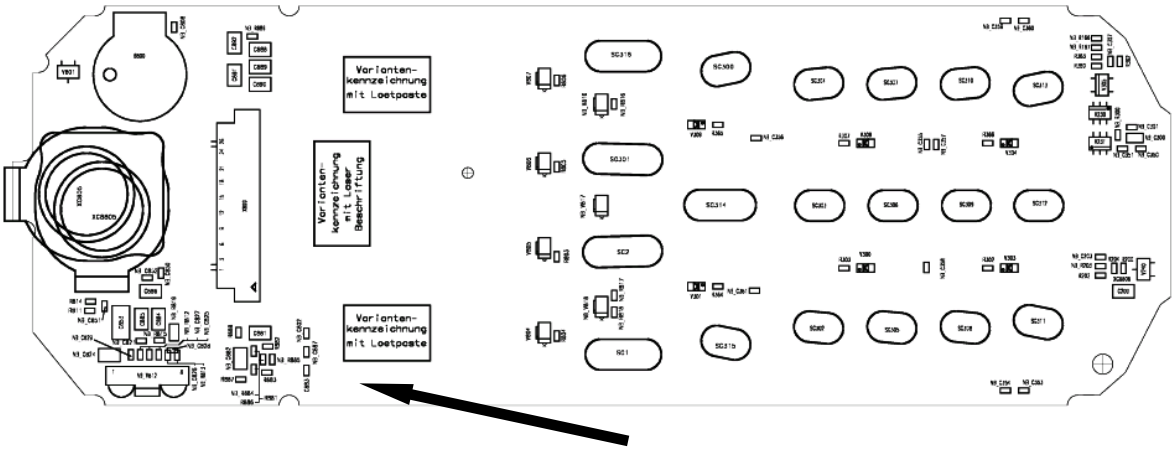
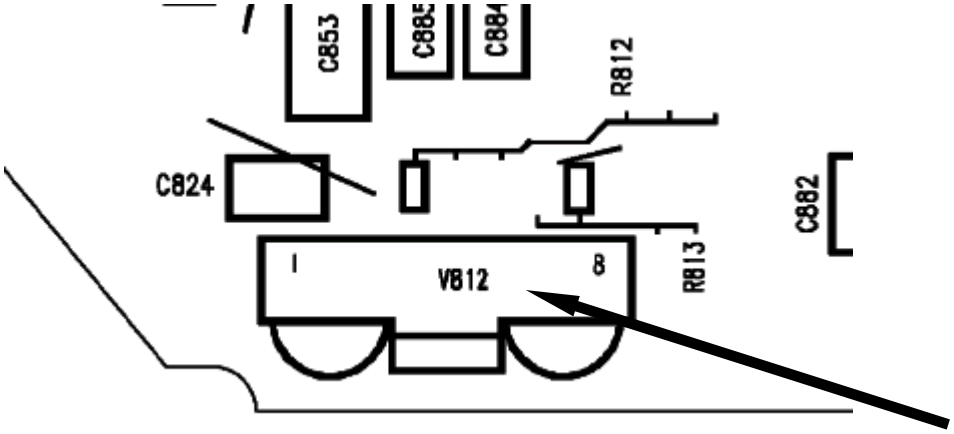



Figure 2: S35 infrared module placement (Top View)